

SECTION 2 ISSUES AND OPPORTUNITIES

Introduction

Section 2 is a compilation of public input, City comments, business survey results, field research and observations. Identification of existing issues and possible opportunities are outlined and will be evaluated in the analysis and alternatives section of the report. While issues define what the problems are, opportunities identify the existing assets that could be better utilized.

Union Square is the City's oldest commercial center and serves as a regional crossroads for Somerville and other inner Boston communities. The Square's location at the intersection of several major arterials provides cross-town and regional highway system access which adds to congestion on local residential and commercial streets. Union Square's streets are gridlocked during morning and afternoon peak periods because all of the Square's major streets are at or over capacity. In addition, the Square is a hub for MBTA service, including the recently initiated CT2 buses. These factors provide opportunities for economic development but also place a significant burden on the local roadway infrastructure. Transit helps alleviate this congestion, enhances the regional transportation network, and improves the economic vitality of the area.

The livability of the Union Square neighborhood is critically important to any economic redevelopment. The convergence of the existing roadway network in the heart of Union Square forms a natural gathering place for people as they access their destinations. The road pattern creates a high activity node where retail businesses, offices, services and residences have developed, forming a typical downtown center with major destinations such as the post office, public safety building, ethnic restaurants, charter and elementary schools and banks. These activities generate pedestrian, automobile, public and commercial traffic within the Square. By utilizing the existing network and coordinating the interaction of public transit, pedestrian mobility, traffic and parking, travel patterns can be modified to meet the growing traffic demands in the Square.

Issues

Primary Issues

Key issues surrounding Union Square's transportation problems include the following.

1. **Traffic Congestion** -Excessive traffic within the limits of the Square
2. **Pedestrian/Bicycle Safety** -Incomplete pedestrian network due to inadequate pedestrian paths and crossings
3. **Public Transportation**-Limited public transit and awkward location of bus stops
4. **Parking** -Isolated parking problems

Traffic Congestion Issues - High traffic volumes entering in Union Square, as well as through traffic from regional origins congest the Square especially during weekday commute hours. The convergence of several roadways that connect to Cambridge and I-93 (forming the pathway to the region's metropolitan center) coupled by a high density residential and business district increases traffic congestion. The effect of this congestion compromises business activity, degrades air quality, and discourages pedestrian mobility.

Key traffic congestion issues include the following:

Intersection Congestion

- Long queue lengths at intersections block adjacent intersections, especially at the following key intersections in Union Square:
 - Somerville/ Washington/ Bow/ Webster
 - Webster/ Prospect
 - Somerville/ Prospect/ Washington
 - Webster/ Newton
 - Warren/ Bow
 - McGrath/ Medford/ Somerville
 - McGrath/ Washington
- Traffic signal phases are too short, especially at the Washington Street and Webster Street intersection
- Buses do not use curb locations for passenger pickup, thereby blocking a lane of traffic at bus stops
- Need to enforce traffic regulations relating to speeding, running traffic signals, and double parking

Through Traffic

- “Cut-through” traffic destined for locations other than Union Square adds unnecessary congestion; through truck traffic is excessive
- Poor I-93 signage on Massachusetts Ave and Alewife Brook Parkway reportedly results in “cut-through” traffic in Union Square
- Local by-passes around the Square adversely affect neighborhoods; e.g. Newton Street, Webster Street, Prospect Street, Greenville Street, Monroe Street, Prospect Hill Avenue and Warren Avenue are used as cut-through roadways

One-Way Streets

- Excessive speed during off-peak travel is a problem on one-way streets such as Bow Street, Webster Street, Somerville Avenue and Washington Street

Access To and From Local Destinations in the Square

- Traffic congestion and parking problems frequently occur at the Charter School on Webster Street during drop-off/pickup times
- Access to and from the parking lot on Washington Street in the Square is difficult; gridlock is common
- Access to the Post Office, local restaurants, the public safety building, and other destinations in the Square is difficult due to congestion at the access/egress (queue for the Washington Street /Somerville Avenue intersection blocks access to the Union Square plaza parking lot and to Bonner Street)
- Vehicular access to Stone Avenue from Washington Street is via the Citizen’s Bank parking lot due to the one-way traffic pattern
- Traffic calming measures to discourage through traffic from residential neighborhoods are lacking in some areas and ineffectual in others

Limited Sight Distance

- The Vietnam Memorial obstructs the sight distance of drivers from Somerville Avenue to Bow Street.
- The grade on rail bridges on Washington Street and Newton Street limits sight distance

Pedestrian/Bicycle Safety Issues - Union Square has evolved as a hub of pedestrian activity. Key pedestrian/Bicycle safety issues include the following.

Crosswalks

- Crosswalks are poorly striped
- Signage along the west side of Somerville Avenue directing pedestrians to crosswalks at the intersections is confusing and disregarded
- Medians and many crossings are too narrow to serve as pedestrian refuge
- Streets are too wide to cross within the designated pedestrian phase, especially for children and the elderly. This is especially critical at the Somerville Avenue / Prospect Street intersection and at the Somerville Avenue / Webster Street / Washington Street / Bow Street intersection.
- Pedestrian phases are too short at Washington Street signalized intersections
- Only one Washington Street crosswalks is located between McGrath Highway and the Union Square Post Office
- The crosswalk in front of the Public Safety Building needs repair
- Traffic regulations relating to illegal mid-block pedestrian crossings (jaywalking) are not enforced
- The traffic sensor at the Wesley Park at Bow Street intersection does not function correctly for pedestrian crossings

Sidewalks

- Width of sidewalks is inconsistent throughout the Square, especially along the one-way section of Somerville Avenue, between Webster Street and Prospect Street.
- Obstacles such as trees, signs, parking meters, storefront signs and trash receptacles, limit use of the sidewalk by pedestrians
- Snow banks limit access to the street and reduce available sidewalk width during the winter
- Bus stop locations adjacent to narrow sidewalks limit through pedestrian movement

Bike Lanes

- The Washington Street bike lane located east of the Square does not continue into Union Square
- Existing bike lanes along the shoulder are inconsistent and unsafe

Urban Design

- The appearance of the Square is compromised by litter, lack of landscape and sidewalk maintenance, and limited pedestrian amenities such as benches, trash receptacles
- Delineation of pedestrian routes and destinations needs to be better identified.
- The Square lacks a uniform design "motif" or theme to reflect a unique sense of place for the Square
- Union Square Plaza may be perceived as a barrier separating east and west sections of the Square

Neighborhoods

- Residential streets are used as bypasses thereby compromising their safety to pedestrians and local residents.

Public Transportation Issues - Public transit is vital to residents and businesses in Union Square, especially for transit-dependent residents and clientele of local shops. MBTA and Senior buses provide access to local destinations and to subway service to Boston. Planned regional transit systems such as Bus Rapid Transit and the Green Line Extension may provide more choices for Union Square but create unknowns for local planning efforts.

Key public transportation issues include the following.

Existing Bus Stops

- Buses do not stop at a centralized location in the Square; those making transfers or looking for the next bus to any of the subway lines may have to cross several lanes of traffic
- Stops lack public amenities such as bus shelters, benches, transit schedules
- With the exception of the stop on Somerville Avenue in the Square, many stops are located on narrow sidewalks with waiting areas reduced by trees, signs, parking meters, storefront signs, trash receptacles, and snow banks
- A stop on Somerville Avenue west of the Square is used illegally as a loading zone, thereby blocking access to the bus

Transit Options

- Insufficient public transit options and limited public transit routes are available
- Cross-town bus routes are inadequately signed and schedule information is not posted
- No commuter rail, bus rapid transit, or light rail transit service is available in Union Square
- Numerous buses operate on Prospect Street but there is no bus stop. Buses are reported to travel at unregulated times, often with few travelers.

Parking Issues - Although a perception exists that there is insufficient parking in the Square, parking problems occur in specific locations and at specific times throughout the day. Bow Street, Somerville Ave, Washington Street east of Union Square, and Union Square roadways have parking shortages during weekday, midday peak times (between 10:00 AM and 3:00 PM).

Key parking issues include the following.

- Double parking along Somerville Avenue encourages traffic congestion and inhibits traffic flow.
- Poor enforcement of two-hour parking regulations restricts short term utilization of the lot at Union Square Plaza
- Parking shortages were observed on Lake Street
- Insufficient post office parking is available in the morning
- Insufficient signage to direct drivers to municipal lots.

Opportunities

Resolution of the issues identified above can be addressed through planning and design efforts. As identified by public meeting participants, Union Square has attractive neighborhoods, diverse businesses and has the potential to be pedestrian friendly. Reduction of traffic is key to creating a pedestrian-friendly business center and viable neighborhood. The following represents the range of opportunities to be considered. Further assessment is required to determine the “implementability” of these options. The Alternatives Section of this report incorporates those opportunities, which are cost effective and yield the greatest impact on the quality of life of those who live, work, or travel through Union Square. The Recommendation Section of this report fine-tunes selected design options and presents planning tools.

Traffic Mitigation Opportunities

Any changes that reduce congestion and improve the flow of traffic through Union Square must also reduce conflicts between pedestrians and vehicles. The options to reduce this conflict include traffic flow improvement strategies that will move traffic within the Square more efficiently. These strategies include traffic calming, traffic signal timing adjustment, transit improvements, street circulation changes, and pedestrian treatments.

Key traffic mitigation opportunities include the following.

Intersection Improvements

- Traffic-calming measures could be implemented to slow down traffic and create a safer, more easily accessible downtown environment. An example is the bump-out (neck-down) at Walnut Street.
- Modifications to existing signal timing could be made to allow traffic to move freely through the Square, and force entering traffic at certain approaches to queue more than others to maintain traffic flow in the Square.

Traffic Reconfiguration and One-way Streets

- One-way street patterns could be reconfigured to make the Square less accessible to outside through traffic from Cambridge via Prospect Street and Webster Street. This should increase mobility within the Square while reducing impacts from Cambridge to the south.
- Measures could be developed to decrease the driveable width of Union Square roadways by increasing sidewalk widths, adding bike lanes, constructing landscaped medians and creating diagonal parking, specifically on Somerville Avenue.
- One-way traffic patterns on Newton Street between Webster and Prospect Streets could be designated to discourage through traffic.
- Smart traveler technology or Intelligent Transportation Systems (ITS) using tools such as variable message boards to redirect traffic could be implemented to improve traffic flow in the Square.
- One-way street patterns in the Prospect Hill neighborhood could be configured to prevent by-pass movements.

Through Traffic

- Findings/recommendations of an on-going regional truck study of alternative routes that avoid Union Square could be considered for implementation.
- Without compromising neighborhood character, by-passes could be used to alleviate congestion on major roadways
- Improve I-93 signage on McGrath Highway, Washington Street and Alewife Brook Parkway to reduce through traffic in the Square.

Sight Distance Improvements

- The Vietnam monument could be relocated to a prominent location, which does not block the view of motorists or pedestrians.

Pedestrian/Bicycle Safety and Urban Design Opportunities

Improving pedestrian amenities may enhance the aesthetics and functionality of the Square as a pedestrian friendly zone. Traffic signal timing can be adjusted to accommodate concurrent pedestrian phasing to maintain a safe crossing environment for pedestrians. Raised or textured crosswalks and brick pavers at crosswalks bring a sense of ownership to pedestrian traffic by slowing vehicle movement through the Square, and making the Square a more walkable neighborhood. By reducing the driveable width of Somerville Avenue west of the Square, several urban design opportunities may be implemented: sidewalks may be widened, bike lanes added, landscaped medians created, and diagonal parking can be added. Urban design elements may be integrated to create a unique “sense of place” for the Square.

Key pedestrian/bicycle safety opportunities include the following.

Crosswalks

- Traffic calming measures could be implemented specifically to improve pedestrian/bicycle safety at major crosswalks such as the one at the corner of Somerville Avenue and Prospect Street near the Dunkin Donuts. A neck-down or curb extension could be constructed to shorten the distance to cross Somerville Avenue and to provide pedestrian refuge areas. Different pavement surfaces such as brick pavers or painted areas within the crosswalk emphasize pedestrian traffic. Crosswalks could be raised or textured for increased visibility by motorists. This measure could be incorporated at other crosswalks as well.
- Concurrent pedestrian phasing at the three key intersections could be implemented to improve traffic flow by providing more time for vehicular traffic by allowing the pedestrians to move on opposing vehicle signal phases.
- Pedestrian countdown signals could be installed in areas throughout the Square to improve pedestrian/bicycle safety.

Median Strip

- A median strip especially along Somerville Avenue could help slow down traffic, beautify the area, and create a pedestrian refuge.
- Planted traffic islands would improve stormwater retention and aesthetics.

Sidewalks and Union Square

- Sidewalks could be widened.
- A sidewalk signage inventory could be conducted to reduce unnecessary or obsolete signs and to prepare recommendations for a unified signage program.
- An Adopt-A-Tree program could be instituted for street trees.
- Better street name signage could be installed.
- Adding plantings, trees, landscaping and litter pick-up could beautify the Square.
- Trash should be removed from streets, sidewalks and parking areas.
- ADA-accessibility should be assured at all crosswalks.

Bike Lanes

- A bike route could be designated on Somerville Ave and other roadways to eventually connect to the Minuteman Rails-To-Trails Bikeway and to Central Square.
- Added signage could increase awareness of bicyclists.

Urban Design

- A comprehensive street furnishings program could be introduced that unifies urban design elements within the Square, including traffic signals, light standards (with banners), light fixtures, signage, benches, bollards, trash receptacles, bicycle racks and tree grates. Also consideration of the introduction of new coordinated elements such as newsstands/information kiosks, poster columns, bus shelters, electronic information boards, and public toilets.
- The character of design elements could range from contemporary or historic. A discussion of the overall existing character of the Square, and its appropriateness for future improvements is necessary. Should the new Square be defined by its historical past, or its potential and promise of the future?
- An overall design theme for the Square could be explored to develop specially designed signage for an image based on restaurants, cultural diversity, historic interpretations, etc. This could enhance the transformation of the Square into a destination and enable it to develop and maintain a unique sense of place.
- A pedestrian "wayfinding" system could be developed to integrate with other proposed urban design elements. This system would effectively guide people through the Square and to destinations within the Square. Special ground plane treatments, signage and other means could be explored as possibilities to promote this concept.

Public Transportation Opportunities

High transit ridership within Greater Boston, including the City of Somerville, puts a priority on maintaining and enhancing the existing transit system infrastructure. As indicated in Section 1, existing MBTA bus service in Union Square provides service from Union Square to urban centers in Cambridge and Boston with connections to suburban and rural destinations outside Greater Boston. The lack of rapid transit service with convenient access to Union Square is a major disadvantage for local residents who must make a connection by bus and travel over a mile to the Green Line at Lechmere Station or the Red Line at Central or Porter Squares. The lack of public transit is also a major disadvantage for businesses, local employees and customers.

Environmental justice concepts are at the core of the Urban Ring project, discussed in Section 1. Improved service to Union Square through implementation of bus rapid transit (BRT) on a dedicated right-of-way to Lechmere. Light rail transit (LRT) or rapid transit service would bring a level of environmental justice to low income, minority, and transit-dependent residents in Union Square. A recommendation of the Urban Ring MIS final report is a commuter stop on the Fitchburg right of way, enabling a connection between the Fitchburg commuter line and Urban Ring.

A Union Square rapid transit station is part of the City's overall economic stimulus and revitalization plan for Union Square. It is critical that a BRT as the terminus of a dedicated ROW to Lechmere or LRT station stop be constructed in Union Square, to foster economic development and redevelopment efforts in the Square, alleviate traffic congestion, and enhance the regional transportation network. Location of an appropriate BRT or LRT stop for service constructed along the Fitchburg line right of way on Prospect Street would provide convenient pedestrian access to destinations throughout Union Square. This site could also serve as a commuter rail station.

Key public transit opportunities in Union Square are dependent upon implementation of all phases of the Urban Ring project and of a Green Line extension to Union Square but also include short-term opportunities including the following:

Bus Stops

- One centralized bus stop (one in each direction EB and WB) could be established in the Square for all east-west routes.
- All bus stops could be relocated south of the Square and consolidate underutilized bus stops (see Multimodal Station, above)
- Bus turnouts could be provided along arterials such as Somerville Avenue and Washington Street allowing buses to pull off the traveled way to pick-up/discharge passengers
- MBTA bus stops in the Square could be relocated to make them more accessible and convenient to the public.
- Publicity could be increased for the new CT2 Bus Route.

Transit Options

- A direct shuttle could be added from Union Square to MBTA Red Line rapid transit at Porter, Harvard, or Central Squares in Cambridge or to the Green Line at Lechmere.
- Electric or clean powered gas buses could be promoted as environmentally friendly alternatives to existing MBTA diesel buses.
- Signage could be improved at bus stops to identify bus stop locations and route schedules.
- Phase 2 of the Urban Ring project including bus rapid transit service along the Fitchburg commuter rail line with a transition to street service at a proposed multimodal station. To facilitate bus rapid transit, signal preemption is required in Union Square. The City should continue to work with the MBTA to evaluate the impact signal preemption on congestion in the Square.
- The Urban Ring bus fleet could be equipped with GPS to track schedules and integrate into traffic signal system.
- The MBTA Green Line could be extended from Lechmere to Medford with a station stop in Union Square. This would require a tunnel beneath Prospect Hill unless a Green Line spur were added from Lechmere to Union Square.

Multimodal Station

A proposed multimodal station on Prospect Street would have the advantages of consolidating up to five of the MBTA bus lines, the Senior Shuttle, Bus Rapid Transit (Phase 2 of the Urban Ring project), Green Line rapid transit and commuter rail service. This location, with amenities for pedestrian comfort, would serve many of the City's objectives:

- Consolidate bus service, eliminating the need for bus patrons to move from corner to corner to flag down the next available bus out of the Square.
- Create an opportunity for an off-street station where busses would not block the flow of traffic.
- Provide comfortable, safe, and pedestrian-friendly facilities with adequate lighting, schedule and fare information, ticketing, benches, and trash receptacles.
- Support access to economic development initiatives in the Square for those from Greater Boston locations.
- Improve access for Union Square residents to employment opportunities along the Green Line in Boston, Cambridge, and Medford.

Commuter Rail

Both the Fitchburg and Lowell MBTA commuter rail lines are located near Union Square. The most likely potential station site at this location would be at Prospect Street, the former site of an MBTA commuter rail stop. A station at this location would serve the heart of Somerville and act as a catalyst to revitalization of the square. The Urban Ring project is currently in its Draft Environmental Impact Report (DEIR) stage of the project and will be providing new data on ridership forecasts and potential impacts of the Urban Ring project. Phase II of the project features a bus rapid transit system with new or improved commuter rail connections (2006-2010). In total, daily ridership on the Urban Ring is expected to be 106,000 but expected to draw from existing MBTA services. Reductions in auto travel through Union Square are minor, although as service on the Urban Ring system improves, BRT service may attract enough additional ridership to replace some of the existing surface bus routes to make a significant impact on vehicular traffic in the square. The long-term development vision includes a new stop for the Lowell branch of the commuter rail as well.

Parking Opportunities

Although Union Square is well served by MBTA bus routes, the availability of sufficient safe and convenient customer and employee parking is critical for the success of local businesses. The majority of available parking is metered on-street parallel parking, supplemented by two off-street public metered parking lots (and private off-street parking lots). Short-term improvements in parking use could be implemented by converting several 2-hour metered parking to a shorter duration to encourage a higher parking turnover rate in the Square. This would be especially attractive to businesses whose customers prefer quick transactions. Increased enforcement of parking violations is a similar short-term improvement that could be implemented to increase the supply of parking. Long-term improvements such as developing additional municipal lots with or without structured parking are more challenging to implement. Increasing the number of off-street parking lots is expensive to pursue. Some locations near Union Square that could be used as excess business parking. However, converting 2-hour meters to shorter time periods would benefit the business community by allowing more turnover of parking.

Key parking opportunities include the following:

- Metered parking in the Union Square Plaza lot should be operational until midnight to prevent overnight parking. This would increase the number of available spaces in the evening for local restaurants and bars
- Metered spaces could be designated as loading zones during morning hours
- Loading activities could be restricted to morning hours only in the Square
- A tandem parking layout could be considered to facilitate parking maneuvers in the Union Square Plaza lot
- Parking meters could be installed on low parking turnover blocks such as Bow Street between Wesley Park and Somerville Avenue and Washington Street between Somerville and Hawkins Street to increase the availability of short term parking
- 2-hour meters could be converted to 30-minute meters in areas where quick transactions are typical (banking, post office, markets, etc.)